

APPENDIX J

Wastewater Report

WASTEWATER REPORT FOR THE CHESTER DEVELOPMENT PROJECT

**Chester Development
Town of Chester Section 2, Block 1, Lot 39
Village of Chester Section 107, Block 3, Lot 4
Section 108, Block 1, Lot 1
Section 120, Block 1, Lot 1
Orange County
New York**

Prepared For:

**BT Holdings LLC- Chester Development
Town and Village of Chester
Orange County, New York**

Prepared By:

**Langan Engineering and Environmental Services, Inc.
River Drive Center 1
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**22 October 2009
9123501**



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Appendix A Moodna Basin Sewer District Usage Report

1.0 INTRODUCTION

This report presents a summary of the existing municipal wastewater system, proposed wastewater generation rates and proposed wastewater infrastructure required for the proposed BT Holdings Chester Development project, a multi-family residential project in the Village of Chester, Orange County, N.Y. The Chester Development project site is several parcels totaling ±68.4 acres east of state Route 17M, approximately one-half mile north of the intersection of Route 17M and state Route 94 (see Figure 1). Chester Mall is immediately south of the project site, Route 17M and a farm are to the west, residential properties and the Nexans industrial facility are to the north and Oakland Avenue and residential properties are to the east. Although the majority of the site, a 60.6-acre parcel, is presently located within the Town of Chester, the project proposes to annex this lot into the Village of Chester.

2.0 MUNICIPAL WASTEWATER COLLECTION SYSTEM

Existing Wastewater System and Capacity

The Harriman Sewage Treatment Plant is an Orange County facility that handles wastewater for a number of municipalities located within the county. The plant receives wastewater flow from the "Moodna Group" which consists of seven municipalities or parts thereof: The villages of Chester, Woodbury and South Blooming Grove and the towns of Chester, Monroe, Blooming Grove and Woodbury. The Moodna Basin Joint Operation and Maintenance Commission ("Moodna Basin Commission") operates as an intra-municipal agency that manages the public wastewater treatment for three of the Moodna Group municipalities or parts thereof: the Village of Chester, the Town of Chester and Town of Monroe. The commission operates and maintains a network of pipes and pump stations (owned by the municipalities in which they lie) within the service area of the Moodna Basin Commission. All of the wastewater within that service area is collected and eventually transported to the Harriman Sewage Treatment Plant for treatment before being discharged to the Ramapo River.

The project site lies entirely within the service area of the Moodna Basin Commission. The entire Village of Chester, where three of the project parcels are currently located, is within that service area. The site parcel presently located within the Town of Chester is within the Town's Consolidated Sewer District No. 1, which also lies entirely within that service area. All of the parcels have been assessed appropriate sewer fees for the duration of their existence within the service area.

In 2006, the Harriman Sewage Treatment Plant expanded its treatment capacity from approximately 4 million gallons per day (mgd) to 6 mgd. The Harriman Sewage Treatment Plant receives wastewater flow from the Moodna Group municipalities as well as Orange County

Sewer District No. 1, which consists of all or parts of the villages of Harriman, Monroe, and Kiryas Joel, and the Town of Monroe.

According to usage reports provided by the Moodna Basin Commission (see Appendix A), as of September 2008 the Harriman Sewage Treatment Plant was processing approximately 4.5 mgd, meaning the Treatment Plant has approximately 1.5 mgd of excess wastewater capacity.

The Moodna Group has a total allocation of 2.015 mgd to the Harriman Sewage Treatment Plant of which 347,000 gallons per day (gpd) and 410,000 gpd are allocated to the Village of Chester and Town of Chester, respectively. According to the usage report, the Moodna Group discharged approximately 1.775 mgd to the Harriman Plant with the Village of Chester discharging approximately 363,600 gpd of wastewater to the plant (16,600 gpd over the Village's allocated amount) and the Town of Chester discharging approximately 262,000 gpd (148,000 gpd under the Town's allocated amount). The net combined available and remaining allocation for the Village and Town of Chester is 131,400 gpd.

Existing Wastewater Infrastructure

The Moodna Basin Commission operates and maintains an extensive sewer network within the town and village, including 8-inch diameter gravity sewer in Route 17M along the site frontage. The 8-inch sewer runs northerly to a pump station (Moodna Pump Station No. 5), from where it is pumped back up to the intersection of Route 17M and West Avenue via a 4-inch force main into a gravity sewer that runs to the south.

Pending or Approved Projects

According to available records, the following projects are pending or approved and may be eligible for sewer service on a first-come, first-serve basis:

Project Name	Project Description	Estimated Wastewater Generated
The Castle Entertainment Complex (Town of Chester)	10,000sf expansion	10,000sf x 0.10gpd/sf = <u>1,000gpd</u>
Frozen Ropes Sports Center (Town of Chester)	20,200 sf building	20,200sf x 0.10gpd/sf = <u>2,020gpd</u>
Coach USA (Town of Chester)	191,040 sf bus garage & offices	60 emp x 15gpd/emp = <u>900gpd</u>
Best Mexican Foods (Town of Chester)	20,000 sf warehouse	10 emp x 15gpd/emp = <u>150gpd</u>
Lowe's Home Improvement Store (Village of Chester)	150,000 sf building	<u>2,500gpd*</u>

Project Name	Project Description	Estimated Wastewater Generated
C&S Wholesale Foods (Village of Chester)	356,022 sf warehouse expansion	120 emp x 15gpd/emp = <u>1,800gpd</u> **
Greens of Chester (Town of Chester)	431 residential units	N/A***
Hills of Chester (Town of Chester)	20 single-family homes	20 x 400gpd/home = <u>8,000gpd</u>
Meadow Hill Development (Village of Chester)	142 residential units	<u>20,000gpd</u> ****

Total: 36,370 gpd

- * Although the Lowe's is currently open and operating, it was still under construction when the Sept 2008 usage report was published
- ** Not including wastewater generated from potential cooling towers (if any)
- *** The Greens of Chester has agreed to construct a new wastewater treatment plant as part of their project and therefore would not contribute any flow to the Moodna Basin Service Area
- **** As reported by Tom Becker, Village Water Superintendent

3.0 PROJECT WASTEWATER GENERATION AND PROPOSED INFRASTRUCTURE

Project Wastewater Generation Rates

Based on New York State Department of Environmental Conservation (NYSDEC) criteria, the BT Holdings project will generate an estimated average daily wastewater flow of 125,160 gpd. The table below provides the calculations per NYSDEC standards.

Type of Facility	Number of Units	NYSDEC Estimated Wastewater Generation Rate	Wastewater Generated (gpd)
1-bedroom dwelling unit	75	150 gpd per unit	11,250
2-bedroom dwelling unit	101	300 gpd per unit	30,300
3-bedroom dwelling unit	282	400 gpd per unit	112,800
Clubhouse (sf)	6,000	0.1 gpd per sf	600
Pool (swimmers)	150	10 gpd per swimmer	1,500
<i>Subtotal:</i>			<i>156,450</i>
20% savings for use of water conservation devices			-31,290
Total:			125,160 gpd

Proposed Disposal of Wastewater

By virtue of the project site's location within the Town of Chester's sewer district and within the Village of Chester, the project will remain entitled to sewer service from both the Town and the Village. According to usage reports provided by the Moodna Basin Commission, the Village of Chester discharged approximately 363,600 gpd of wastewater to the plant which is 16,600 gpd over the Village's allocated amount. The Town of Chester discharged approximately 262,000 gpd which is 148,000 gpd under the Town's allocated amount. The net combined available and remaining allocation for the Village and Town of Chester is 131,400 gpd. The estimated 125,160 gpd of wastewater the proposed project is expected to generate is 22,840 gpd below the Town's available and remaining allocation and 6,240 gpd below the combined available and remaining allocation between the Town and Village. As such, there presently exists available capacity in the wastewater system to handle the proposed project

If the pending or approved projects should come on line prior to the BT Holdings project and additional capacity was needed, the Town and/or Village can request additional allocation from the Harriman Sewage Treatment Plant which, as mentioned above, has approximately 1.5 mgd of available capacity. The project sponsor would reimburse the appropriate municipality for any fees related to the increase in allocation necessary to service the proposed project. At present, a Court ordered injunction prohibits the County from allocating any additional amounts to the Moodna Group municipalities. However, it is anticipated that the legal proceedings will be brought to conclusion prior to construction of the BT Holdings project and, depending upon the results of those legal proceedings, additional allocation may become available from the Harriman Treatment Plant source.

Should wastewater disposal via the proposed Black Meadow Wastewater Treatment Facility become available, that would provide an additional potential source of wastewater capacity.

If the pending or approved projects came on line prior to the BT Holdings project and additional allocation to service the BT Holdings project was needed but unavailable from the alternate sources described above, construction of units beyond available capacity would be prohibited until such capacity became available.

Proposed Wastewater System Infrastructure

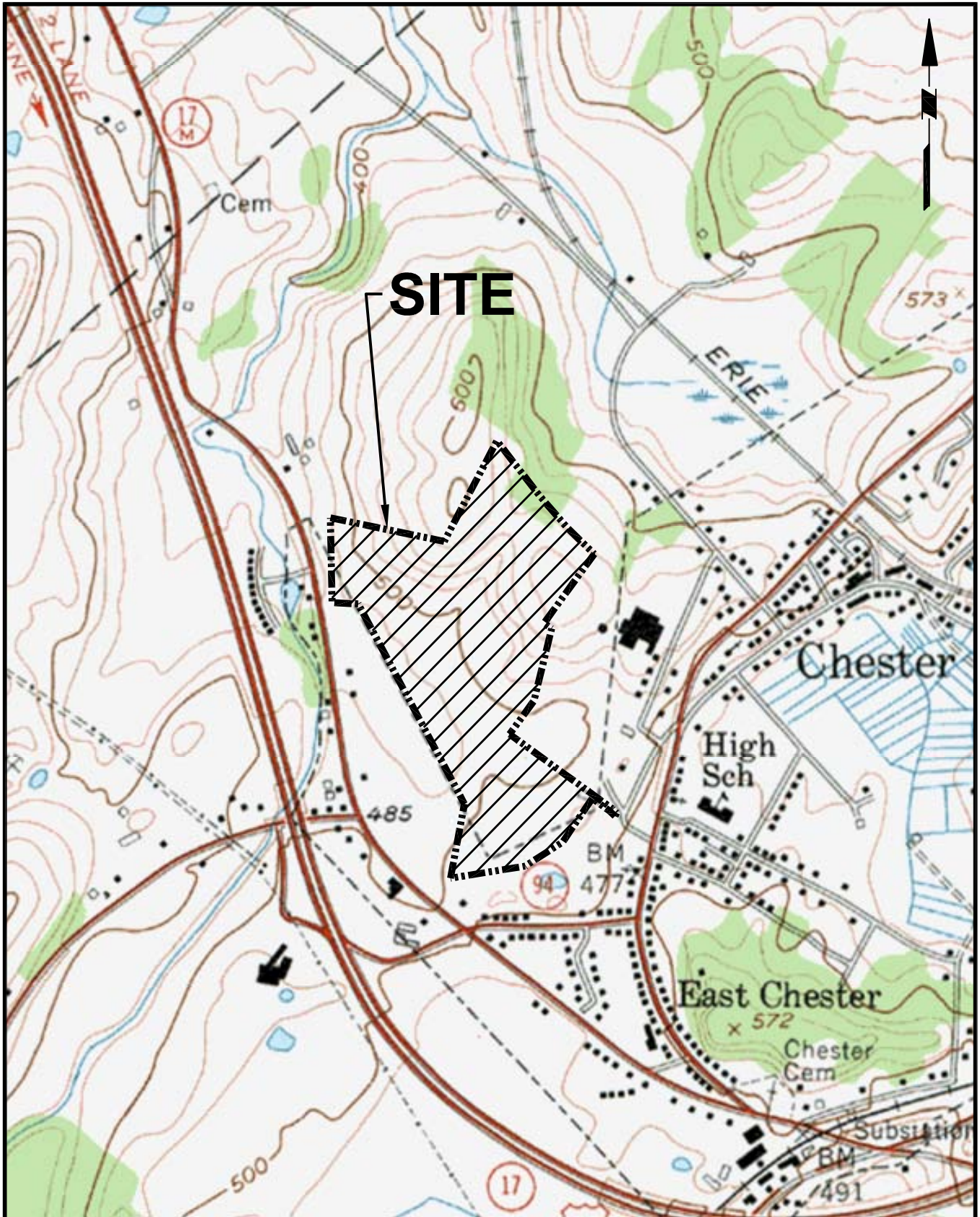
The wastewater from the site will be collected from the site in a new gravity sewer system flowing to the existing 8-inch main in Route 17M. The new gravity sewer system will be designed in accordance with village, county and NYSDEC standards as applicable. Pump stations are not anticipated to be required within the project site.

Moodna Pump Station No. 5 will have to be assessed and evaluated for confirm its ability to handle the additional flow from the project site. Improvements to the pump station, if necessary, are anticipated to be designed, permitted, and constructed by the developer with review and approval by the Village, Moodna Basin Commission, Orange County Health Department, and NYSDEC as applicable.

The only anticipated infrastructure improvements outside the site boundary with regards to wastewater would be the assessment and upgrade, if necessary, of Moodna Pump Station No. 5 for the additional project flow. The remainder of the existing infrastructure in Route 17M would be utilized to convey wastewater flow to the south to its eventual discharge to the Harriman Sewage Treatment Plant.

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FIGURES



MAP REFERENCE: USGS QUADRANGLES - WARWICK QUADRANGLE, NEW YORK-ORANGE CO.



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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA

NJ Certificate of Authorization No: 24GA27996400

Project **SITE LOCATION MAP**
CHESTER DEVELOPMENT
 VILLAGE OF CHESTER

ORANGE COUNTY

NEW YORK

Project No. 9123501	Date 12-2-08	Scale 1"=1000'	Dwg. No. FIGURE-1
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APPENDIX A

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS -
 DIVISION OF ENVIRONMENTAL FACILITIES AND SERVICES
 EXISTING FLOW INTO THE 6.0 MGD
 HARRIMAN SEWAGE TREATMENT PLANT
 REPORT DATE OF September 30, 2008

	2008												12 MONTH AVG.		REMAINING AVAILABLE BALANCE	
	2007 OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total	ENDING 30-Sep-08		PRESENT LIMIT
RAIN IN INCHES	5.60	2.82	5.88	1.55	8.05	5.90	2.64	3.57	2.54	2.54	3.15	6.49	50.73			
VILLAGE OF CHESTER	284,393	279,066	357,072	325,774	401,775	412,909	266,279	430,557	380,057	378,332	422,406	424,432		363,588	347,000	(16,588)
TOWN OF CHESTER	266,880	275,297	292,743	262,738	272,333	299,549	265,697	278,676	233,131	222,800	218,254	257,734		262,153	410,000	147,847
TOWN OF MONROE	87,628	86,297	88,930	100,699	108,033	90,085	118,561	101,235	136,212	144,238	149,112	121,800		111,069	133,000	21,931
V. OF S. BLOOMING GROVE	219,061	260,817	359,913	321,232	363,966	387,421	294,403	286,484	223,607	216,674	206,935	231,437		280,996	490,000	209,004
VILLAGE OF WOODBURY	598,542	681,773	854,723	862,197	1,163,128	1,185,887	751,923	706,845	585,090	542,065	527,074	621,497		756,729	635,000	(121,729)
MOODNA TOTAL	1,456,504	1,583,250	1,953,381	1,872,640	2,309,235	2,375,851	1,696,863	1,803,797	1,558,097	1,504,109	1,523,781	1,656,900		1,774,534	2,015,000	240,466
OCSD#1	2,359,496	2,739,750	3,561,619	3,205,360	4,033,765	3,663,149	2,402,137	2,300,203	2,006,903	2,042,891	2,141,219	2,474,100		2,744,216	3,985,000	1,240,784
HSTP TOTAL	3,816,000	4,323,000	5,515,000	5,078,000	6,343,000	6,039,000	4,099,000	4,104,000	3,565,000	3,547,000	3,665,000	4,131,000		4,518,750	6,000,000	1,481,250